Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (previously presented): A thin film thickness measurement apparatus comprising:

a light source;

a plurality of optical fibers for directing light from said light source substantially perpendicular to a substrate and for receiving light reflected from said substrate;

an analyze unit for analyzing thickness of a thin film of said substrate according to intensity of reflected light received by said optical fibers, wherein

(a) at least one of the optical fibers guides the light from said light source onto said substrate and receives light reflected from said substrate, and

(b) at least one of the optical fibers guides the reflected light from said substrate to said analyze unit; and

a shutter for selectively blocking the reflected light received by at least one of the optical fibers.

Claims 2-9 (canceled)

Claim 10 (original): The thin film thickness measurement apparatus according to claim 1, said analyze unit including

a spectroscope dividing reflected light from said substrate according to intensity of each wavelength, and

a calculation unit calculating thickness of a thin film of said substrate according to intensity of each wavelength divided by said spectroscope.

Claim 11 (original): The thin film thickness measurement apparatus according to claim 10, wherein said calculation unit calculates thickness of said thin film by equations of:

$$R = \frac{R(2,1) + R(1,0) \times k^2 + 2 \times \rho(2,1) \times \rho(1,0) \times k \times \cos(\gamma)}{1 + R(2,1) + R(1,0) \times k^2 + 2 \times \rho(2,1) \times \rho(1,0) \times k \times \cos(\gamma)}$$

$$\rho(2,1) = \frac{n_1 - n_2}{n_1 + n_2}$$

$$\rho(1,0) = \frac{n_0 - n_1}{n_0 + n_1}$$

$$R(2,1) = \rho(2,1)^2$$

$$R(1,0) = \rho(1,0)^2$$

$$\gamma = 4\pi n_1 d/\lambda$$

where n_0 is a refractive index of said substrate, n_1 is a refractive index of said thin film, n_2 is a refractive index of air, λ is a wavelength of light, and k is an absorption coefficient of said thin film.

Claim 12 (currently amended): The thin film thickness measurement apparatus according to claim 11, wherein said ~~light receiving unit~~plurality of optical fibers directs light substantially perpendicular to a substrate placed on a robot hand.

Claim 13 (currently amended): The thin film thickness measurement apparatus according to claim 11, wherein said ~~light receiving unit~~ plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 14 (original): The thin film thickness measurement apparatus according to claim 10, wherein said calculation unit calculates thickness of said thin film by equations of:

$$R(p+1, 0) = \frac{A+B}{1+C+B}$$

$$A = R(p+1, p)+R(p, 0)\times k^2$$

$$B = 2\times \rho\,(p+1, p)\times \sqrt{R(p, 0)}\times k\times \cos(\gamma(p, 0)+\gamma(p))$$

$$C = R(p+1, p)\times R(p, 0)\times k^2$$

$$\rho\,(p+1, p) = \frac{n(p)-n(p+1)}{n(p)+n(p+1)}$$

$$R(p+1, p) = \rho\,(p+1, p)^2$$

$$\tan\gamma\,(p, 0) = \frac{D}{E+F}$$

$$D = \sqrt{R(p-1, 0)}\times(1-\rho(p, p-1)^2)\times\sin(\gamma(p-1, 0)+\gamma(p-1))$$

$$E = \rho\,(p, p-1)\times(1+R(p-1, 0))$$

$$F = \sqrt{R(p-1, 0)\times(1+\rho(p, p-1)^2)\times\cos(\gamma(p-1, 0)+\gamma(p-1))}$$

$$\gamma\,(p) = 4\pi n(p)d(p)\cos\theta(p)/\lambda$$

where n_0 is a refractive index of said substrate, n(p) is a refractive index of the p-th layer of thin film from said substrate, n(p+1) is a refractive index of air, λ is a wavelength of light, and k is an absorption coefficient of said p-th layer of thin film.

Claim 15 (currently amended): The thin film thickness measurement apparatus according to claim 14, wherein said ~~light receiving unit~~plurality of optical fibers directs light substantially perpendicular to a substrate placed on a robot hand.

Claim 16 (currently amended): The thin film thickness measurement apparatus according to claim 14, wherein said ~~light receiving unit~~plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 17 (currently amended): The thin film thickness measurement apparatus according to claim 1, wherein said ~~light receiving unit~~plurality of optical fibers directs lights substantially perpendicular to a substrate placed on a robot hand.

Claim 18 (currently amended): The thin film thickness measurement apparatus according to claim 1, wherein said ~~light receiving unit~~plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 19 (previously presented): A thin film thickness measurement method comprising the steps of:

providing a plurality of optical fibers;

directing light from a light source substantially perpendicular to a substrate via at least one of the optical fibers;

receiving light reflected from said substrate via at least one of the plurality of optical fibers;

utilizing a shutter to selectively block reflected light received by at least one of the optical fibers; and

analyzing thickness of a thin film of said substrate according to intensity of said received reflected light.

Claim 20 (original): The thin film thickness measurement method according to claim 19, wherein said step of measuring thickness of said thin film includes the steps of

dividing reflected light from said substrate according to intensity of each wavelength, and

calculating thickness of a thin film of said substrate according to said intensity of each wavelength divided.

Claims 21-59 (canceled)